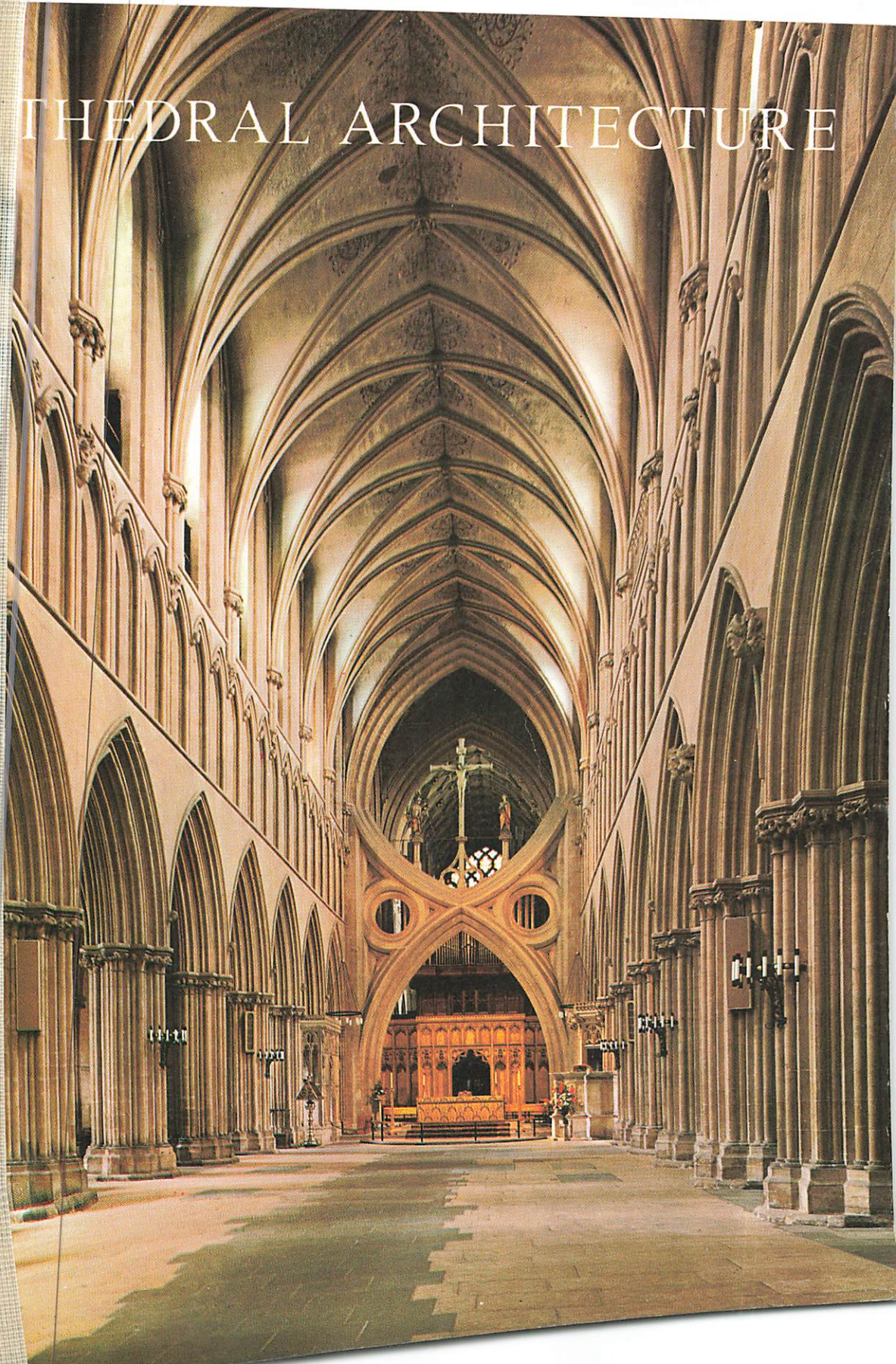
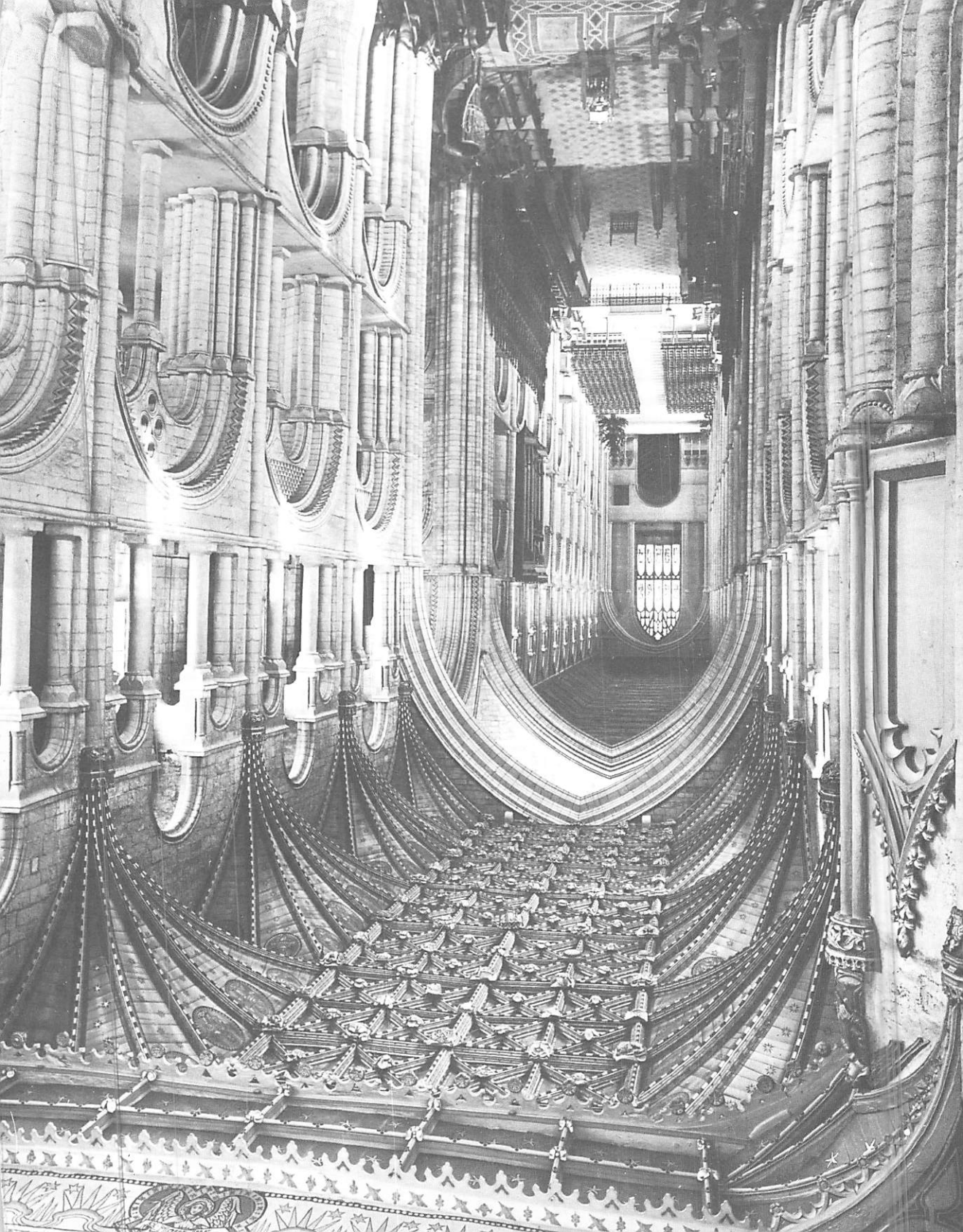


# CATHEDRAL ARCHITECTURE











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# CATHEDRAL ARCHITECTURE

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FRONT COVER: Wells Cathedral: the nave. FACING PAGE: Peterborough Cathedral. The characteristics of Norman workmanship (1117 to c. 1150) are clearly seen: round arches, stout columns, cushion capitals and chevron ornament. ABOVE: Salisbury Cathedral (early English, 1220–1258). Salisbury is without rival among the cathedrals of the world for the grace of its spire (14th century, 404 ft.) and the beauty of its setting.



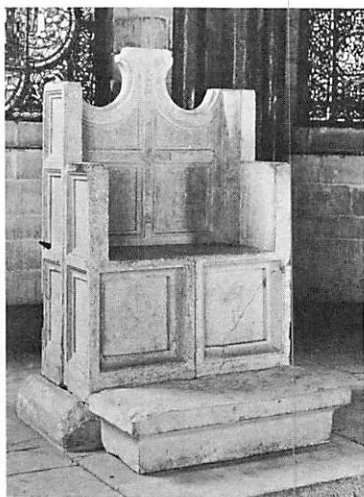
# CATHEDRAL ARCHITECTURE

Martin S. Briggs

IF suddenly asked to define a cathedral, many people would reply that it is a large church presided over by a bishop. That would be incorrect in two respects. A cathedral is in the charge of its Dean and Chapter, but in England the title 'Provost' is used in the newer dioceses for the head of the Cathedral Chapter where the cathedral is also a parish church, and the Provost is thus also an incumbent with cure of souls. Some English parish churches and abbeys are indeed larger than the smallest of the cathedrals. Westminster Abbey, for example, is not now a cathedral, though it was in the 16th century; and today, when we speak of 'Westminster Cathedral', we mean the great modern Roman Catholic cathedral near Westminster Abbey. In Liverpool there are two cathedrals, both modern. One is Anglican, the other is Roman Catholic. The same situation occurs at Southwark in London, where the Anglican cathedral is partly ancient and partly modern, while the Roman Catholic one, though bombed and restored, is Victorian.

The Latin word *cathedra* comes straight from the Greek *kathedra* which means simply 'a seat'. In the Church, the word came to be used for the bishop's seat; or, as it is now generally called, the bishop's 'throne'. Hence, a cathedral is the church in a diocese containing the bishop's throne, whatever the size of the building.

Although three bishops from England attended the famous Council of Arles in A.D. 314, the British Church, then well established, was almost destroyed by our pagan Anglo-Saxon ancestors, and little remains of its ancient buildings; indeed, hardly any actual part of an English cathedral exists today (with the important exception of some crypts) that is earlier than the Norman Conquest of 1066, though long before that time quite a number had been founded, viz:



Canterbury (597), Rochester and London (604), York (625), Lichfield (656), Winchester (662), Hereford (676) and Worcester (680).

Others followed, but several of them fell into decay; and in 1066 the list was as follows: Canterbury, York, London, Rochester, Lichfield, Winchester, Hereford, Worcester, Wells, Durham, Exeter, Elmham (Norfolk), Dorchester (Oxfordshire), Sherborne (Dorset) and Selsey (Sussex). Of all these, Elmham and Selsey have practically disappeared, while Dorchester and Sherborne—though both fine churches—lost their cathedral status long ago, although the names of the dioceses are preserved in suffragan bishoprics.

At the present time, there are 43 Anglican cathedrals in England, of which 19 were cathedrals before Henry VIII dissolved the monasteries in 1536-9. These were (in alphabetical order) Bath, Canterbury, Carlisle, Chichester, Coventry, Durham, Ely, Exeter, Hereford, Lichfield, Lincoln, London ('old' St Paul's), Norwich, Rochester, Salisbury, Wells, Winchester, Worcester, York. After the dissolution of the monasteries,

five more were added: Bristol, Chester, Gloucester, Oxford and Peterborough, all of which had hitherto been monastic churches. The English word 'minster' is derived from the Latin *monasterium*, a monastery.

During the 19th and 20th centuries, 17 monastic 'collegiate', or large parish churches were 'up-graded' to cathedral rank, viz: Birmingham, Blackburn, Bradford, Chelmsford, Derby, Leicester, Liverpool, Manchester, Newcastle, Portsmouth, Ripon, St Albans, St Edmundsbury (Bury St Edmunds), Sheffield, Southwark, Southwell and Wakefield. In modern times new cathedrals have been erected at Truro, Liverpool, Coventry and Guildford. Coventry's history as a cathedral has not, of course, been continuous, the modern Foundation dating from 1918, when the collegiate church of St Michael became the cathedral.

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THIS PAGE: *St Augustine's Chair, Canterbury. Every Archbishop of Canterbury is enthroned in this ancient seat. A cathedral is a church in which is the bishop's seat (called the Bishop's Throne), and every cathedral church must have one.*

FACING PAGE: *Gloucester Cathedral cloisters, commenced c. 1370, were completed in 1412 and are perhaps the finest in England. The purpose of cloisters was to provide a covered way to the various monastic buildings, and a place for education and exercise. The outstanding architectural feature of the Gloucester cloisters is the fan vaulting, attributed as an original idea to the masons of that cathedral about 1370. The traceried arches, overlooking the cloister garth, are in this case glazed. The photograph shows the carrels, or cells, where the monks sat for study and meditation. Usually on the south side of a cathedral to obtain full benefit of the sun, those at Gloucester are on the north side.*









In Wales, there are Anglican cathedrals at Bangor, Brecon, Llandaff, Newport (in Monmouthshire, which is ecclesiastically a part of Wales), St Asaph and St David's. In Scotland the principal examples are in Edinburgh (modern), Glasgow, Aberdeen (partly ruined), Dunblane and Kirkwall.

The cathedral is the centre-piece of a group of buildings generally called the close or precincts. Among these is a chapter-house for meetings of the Dean and Chapter—the clergy who are in charge of the cathedral and responsible for the fabric and the conducting of its services. Many of the English chapter-houses are polygonal on plan, with a central pillar supporting a lofty vaulted roof of stone; but some are rectangular (e.g. those at Canterbury, Chester, Exeter and Gloucester), and that at Worcester is circular.

Those cathedrals which were originally monastic churches, as well as some of the others, have a cloister, usually on the south side, as this is the warmest aspect. Many of these cloisters (e.g. at Lincoln, Gloucester, Canterbury, Worcester) are beautifully vaulted in stone, with traceried windows on their inner sides overlooking the enclosed cloister garth. The word 'cloister' comes from the Latin *claustrum*, literally an enclosed space, sometimes called the 'cloister

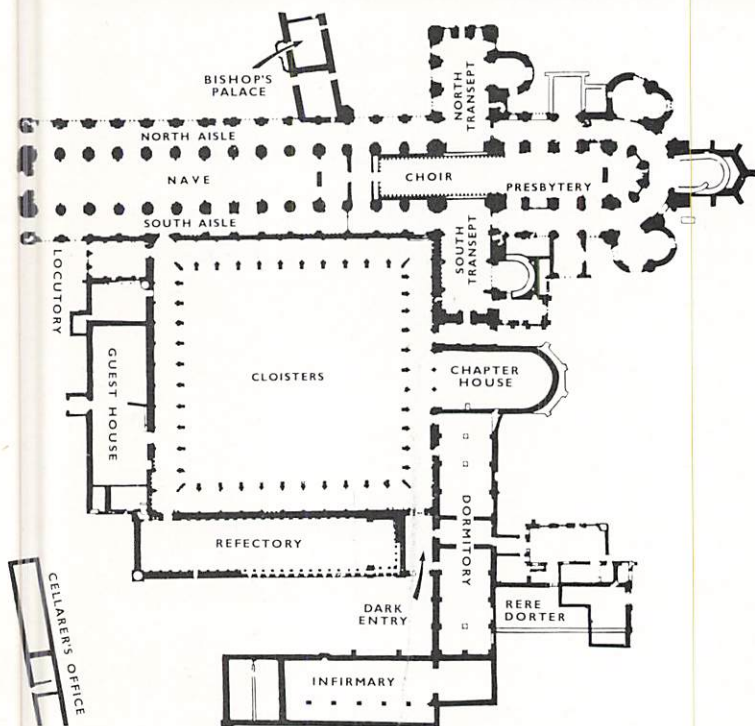
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ABOVE: The Early English Chapter-house at Westminster Abbey, completed 1253. It is octagonal with a slender column of Purbeck marble providing central support to the vault (rebuilt by Sir Gilbert Scott).

LEFT: A plan of Norwich, a typical monastic cathedral. St Pachomius (c. 292–346) was the founder of ordered monasticism, which was later developed by the Benedictines (c. 500), Cluniacs (c. 909), Cistercians (1098), and others. Monastic life included worship, and a monastic cathedral or an abbey was the church of the monastery. The cloisters provided access to the Chapter-house, also to the refectory (dining hall), and the calefactory (common room) over which were the dormitories. The hospitium (guest house) was also within easy reach.

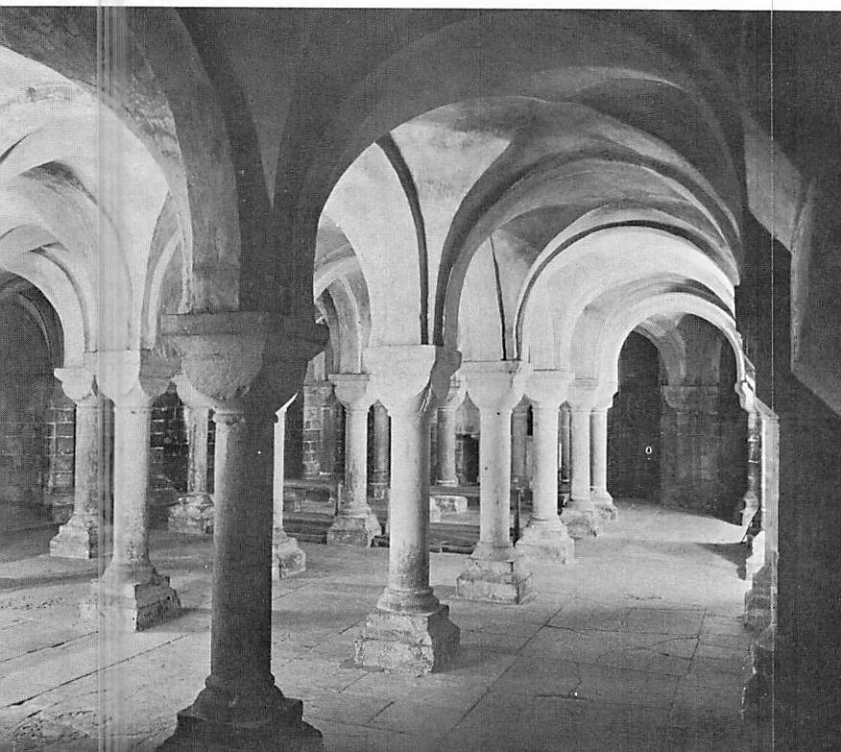
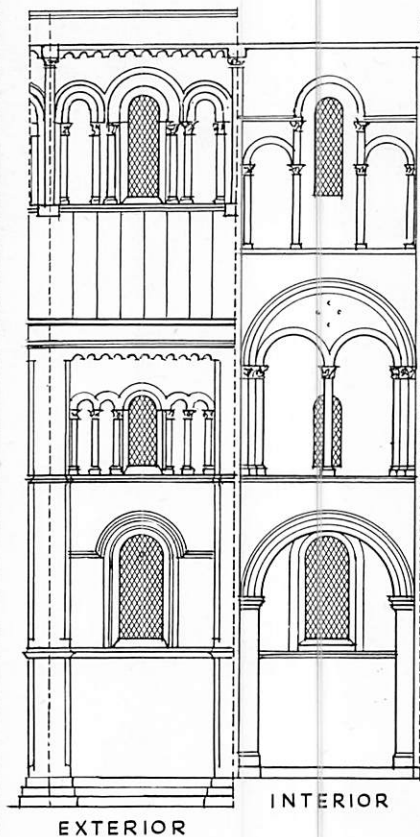
RIGHT: England's finest Norman apse, at Norwich Cathedral, surmounted by a later clerestory and vault which make it comparable with the great apses of the continent.











## ENGLISH ROMANESQUE OR NORMAN (1066-1190)

ABOVE: A bay of Peterborough choir. Note the round-headed windows, and the triforium outer window with exterior wall-arching. The triple-arched clerestory has one central window.

ABOVE LEFT: Rochester Cathedral: the Norman nave. The original clerestory has not survived.

LEFT: Worcester crypt is a striking example of early Norman work: simple bases to plain piers, cushion capitals, groined roof with square-edged transverse arches.

FACING PAGE: Durham: the transept, looking north. Note the sturdy Norman masonry with a 14th-century window, a spirally grooved pier, engaged columns with cushion capitals and squared abaci.



garth', around which the covered walks provided a place for work and recreation and conversation on wet days, besides giving access to the chapter-house and other buildings.

Except for its chapter-house and perhaps its cloisters, the plan of a cathedral does not differ much from that of any large Anglican or Roman Catholic church. Most English cathedrals have a cruciform plan, i.e. a plan in the form of a cross. The western long arm or shaft of the cross is the nave, the cross-bar is the transept (usually called the north and south transepts), the eastern arm is the chancel, or choir. The idea that a church was and is planned intentionally in the shape of a cross to remind us of Christ's crucifixion is now generally rejected by some learned scholars, who consider that transepts were provided mainly to give a convenient increase of space in which a large congregation could see the ceremonies and hear a preacher. The provision of transepts is also attributed to a desire for more side-altars, or alternatively to bear the outward thrust of the great tower at the church's centre. In the Middle Ages, when most of our cathedrals were built, a large part of our nation was certainly illiterate, so many symbols and pictures were used in the decorations, carved or painted, to recall incidents and stories and lessons of the Bible (as well as sometimes horrible representations of the torments of Hell); but the idea that every feature of these great churches can be ascribed to some didactic or symbolic purpose is apt to be exaggerated. For example, why did the old builders and architects erect such magnificent spires as we see at Salisbury and Chichester, or the trio at Lichfield? It was a most extravagant way of roofing a bell-tower that could be done without carrying a pyramidal roof up such a height, as we can see at Southwell Cathedral. The old idea that the tall spire was a finger pointing to heaven is now discounted, though I confess that it appeals to me. Certainly the builders of a cathedral were sometimes tempted to rival their neighbours in an adjoining town. I prefer to think that it was done for the glory of God.

Coming back to the plan of a cathedral, we find that the high altar is normally placed at the east end and the main entrance at the west end. Often there are other doorways and

porches into the nave on the south side. In small churches, the main entrance is generally through a south porch, while the west door gives access to a 'ringing-chamber' under the west tower. Some cathedrals (e.g. Salisbury), however, have north porches. Nowadays a private door is provided for the parson into his vestry (literally a robing-room where he kept and donned his clerical robes) but a vestry used seldom to be found in small churches. In cathedrals the vestry is often combined with the sacristy, a room for storing the sacred and precious vessels and vestments used in religious ceremonies.

In a cruciform church, the eastern arm of the cross—which is normally shorter than the western arm—is as often called the 'choir' as the 'chancel', because the choir is usually seated there. Again, sometimes this part is called the 'presbytery' (Latin *presbyter*, priest) because the clergy officiate there. Sometimes it is called the 'chancel' because in the earliest Christian churches, as in England

today, it was divided from the nave by a low, open screen (Latin *cancellus*). This screen, however, is occasionally (e.g. as at St Albans and York) a solid and ornate erection; but we must remember that at St Albans, as at other formerly monastic churches, it fulfilled the important function of separating the members of the monastery from the lay worshippers.

In some parts of England during the late Gothic period (15th-16th centuries) a carved stone or wooden screen of great elaboration and beauty was provided to separate the chancel and its adjoining 'chapels' (see next page) from the nave. The finest of such screens still surviving are in East Anglia, Somerset and Devon, and at York and Durham cathedrals; but a great many were destroyed during the iconoclastic attacks on 'images' in the 16th and 17th centuries.

The high altar at the east end of the chancel is raised a few steps above the floor level, so that the ceremonial at the altar can be seen by the congregation; and a rail is provided west

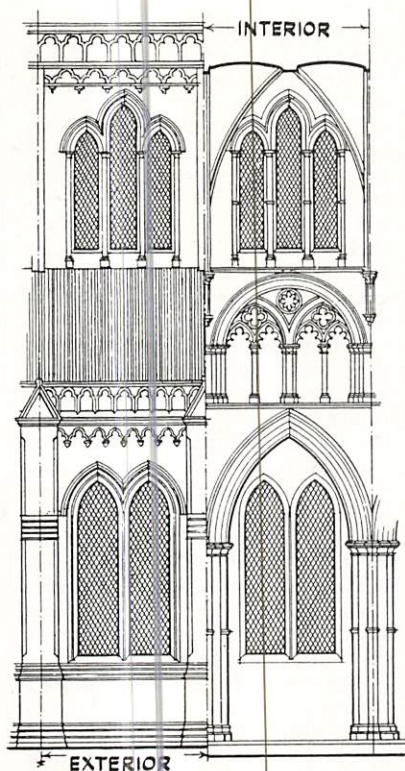
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of it. There is usually a reredos.

The east end of most English cathedrals is square, but a few examples have a ring of chapels round a semicircular east end. This arrangement, which is called by the French word *chevet*, may be seen at Canterbury, Gloucester and Norwich. More often, there is a large chapel extending eastwards from the main east end of the cathedral. This is usually called the 'Lady Chapel', because it is dedicated to 'Our Lady, the Blessed Virgin Mary'. There are fine examples at Gloucester, Salisbury, St Albans, Winchester, Worcester, etc.; at Ely, the Lady Chapel is a separate structure parallel with the choir; at Durham its place is taken by the fine 'Chapel of the Nine Altars'; at Peterborough and Norwich it has been demolished. Modern examples are at Guildford and Liverpool.

The various small chapels around the *chevet*, or situated elsewhere in a cathedral or parish church, are often called 'chantry chapels' because masses were sung in each of them for the soul of the person who had originally built and endowed the chantry at his own expense; and each contained a small altar.

*Continued on page 10*



#### EARLY ENGLISH OR EARLY POINTED (c. 1190–c. 1300)

**FACING PAGE:** *Lichfield Cathedral: the west front with its twin spires shows the transition to Decorated Gothic. In the background, the central spire has three stages of ornate carving. The octagonal spires are each encircled by ball-flower bands.*

**ABOVE:** *Lincoln Cathedral: the nave, pier arcade, triforium, clerestory, and stone pulpitum. The vault has moulded rib diagonals, tiercerons and ridge.*

**LEFT:** *Salisbury Cathedral: a drawing showing the proportions of the pier arcade, the triforium of outer and two inner containing arches above four lower arches, and the clerestory.*



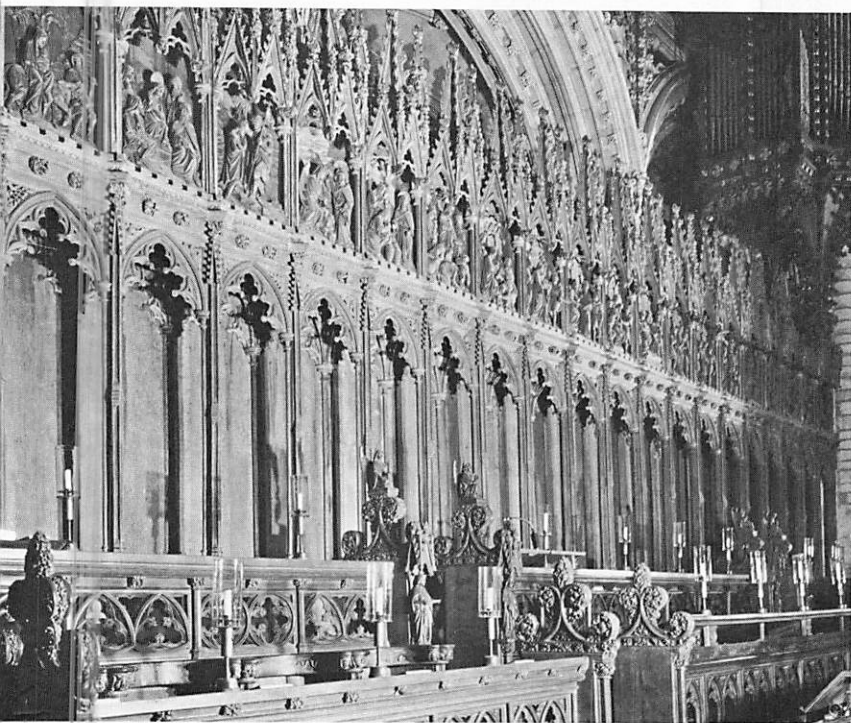


Two important items in every cathedral, and every other type of church, are the font and the pulpit. The font is generally placed near the west end of the building, sometimes in a baptistry, and is, of course, used for Christian baptisms. Most old fonts are made of stone with a lead basin, but a few ancient examples are entirely of lead. The oldest of all, the Norman fonts, are usually square or circular on plan, while the later Gothic ones are generally hexagonal.

The origin of the Christian pulpit dates back to the pagan Roman *pulpitum*, a raised platform or stage from which actors recited, and though the earliest mention of a pulpit in England occurs in a 12th-century record, the earliest surviving example in England is believed to date from about 1330, and is in a parish church; but there are early monastic examples in some refectories, e.g. at Beaulieu Abbey and Chester Cathedral. Even so late as the 15th century, not more than one English parish church out of five possessed a pulpit, but in 1603 their provision was made compulsory. As a result, many cathedrals as well as parish churches contain handsome wooden Jacobean pulpits. These are often provided with 'testers' (sounding-boards over the preacher's head). Unfortunately, a great number of fine Jacobean and Georgian pulpits were destroyed in Victorian times during the 'Gothic Revival' (see page 19), and were then replaced by gaudy substitutes in foreign marbles.

Enclosed private pews, with their doors and cushioned seats, were seldom found before the 17th century, either in cathedrals or in parish churches, but then became fairly common. Pew-rents provided a useful source of income, whether their owners attended church regularly or not; but pews certainly did create an effect of exclusiveness, and in recent times they have been largely superseded in cathedrals by open fixed seats or by movable chairs. Some cathedrals

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ABOVE LEFT: *The Lady Chapel at Hereford, built in about 1220, has lancet windows, many shafted in their reveals. The end wall was rebuilt in the 19th century.*

BELOW LEFT: *The superb 14th-century choir stalls at Ely have interesting misericords.*



(c.g. Manchester) contain fine wooden bench-ends carved with 'poppy-heads', and sometimes with amusing or even grotesque human figures.

Having now considered the planning and equipment of an English cathedral, we may turn to the architectural style and features of the building at the various stages of its historical growth. It may be easier to study the history and development of style by looking at the simpler work of our parish churches, but it is in the cathedrals and great churches that the most up-to-date design of each period and its finest elaboration will be found. Dates are ascribed to them only as an indication of the time at which a style flourished, because each overlapped the next. Because hardly anything now survives in our cathedrals that is older than the date of the Norman Conquest in 1066, nothing need be said here of 'Saxon Architecture', as it used to be called. The term used by scholars today is not 'Saxon' but 'Early Romanesque' or 'Pre-Conquest Romanesque'; for our English architecture, like that of other European countries from the 5th century A.D. to the 12th, was based upon that of Rome—the great Empire that had ruled all Western Europe up to its fall in the 5th century after the barbarian invasions.

'Norman' architecture, a convenient term for Post-Conquest Romanesque in Britain, is usually considered to have run its course just before A.D. 1200. The warlike people who gave it this familiar name were called 'Northmen' in their own day; and, though they invaded our shores from Normandy across the English channel, they were not Frenchmen but Scandinavians, and are sometimes described as 'Vikings'. They settled permanently in Northern France ('Normandy') in 911 and from the French they learned something about civilisation and architecture during the next century; but before that time they had been rough and wild barbarians, who had fought their way as far as southern Italy and Russia.

Norman architecture in England is marked by semicircular arches everywhere, doorways and windows with semicircular heads, occasional circular or 'bull's-eye' windows, thick walls, massive round pillars to carry the nave-arcades (lines of arches) in churches, bell-towers decorated with rows of small arches and crowned with pyramidal roofs or spires, crude bar-

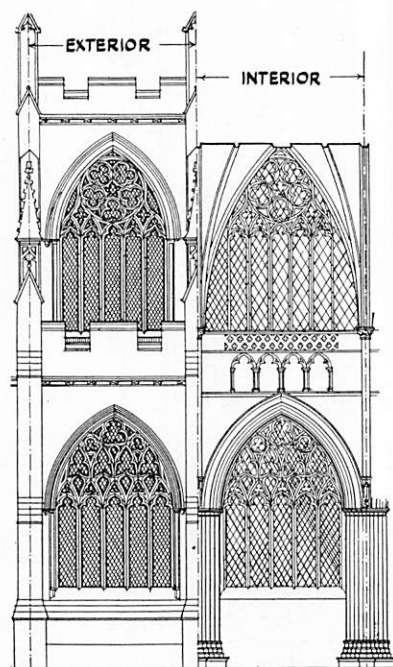
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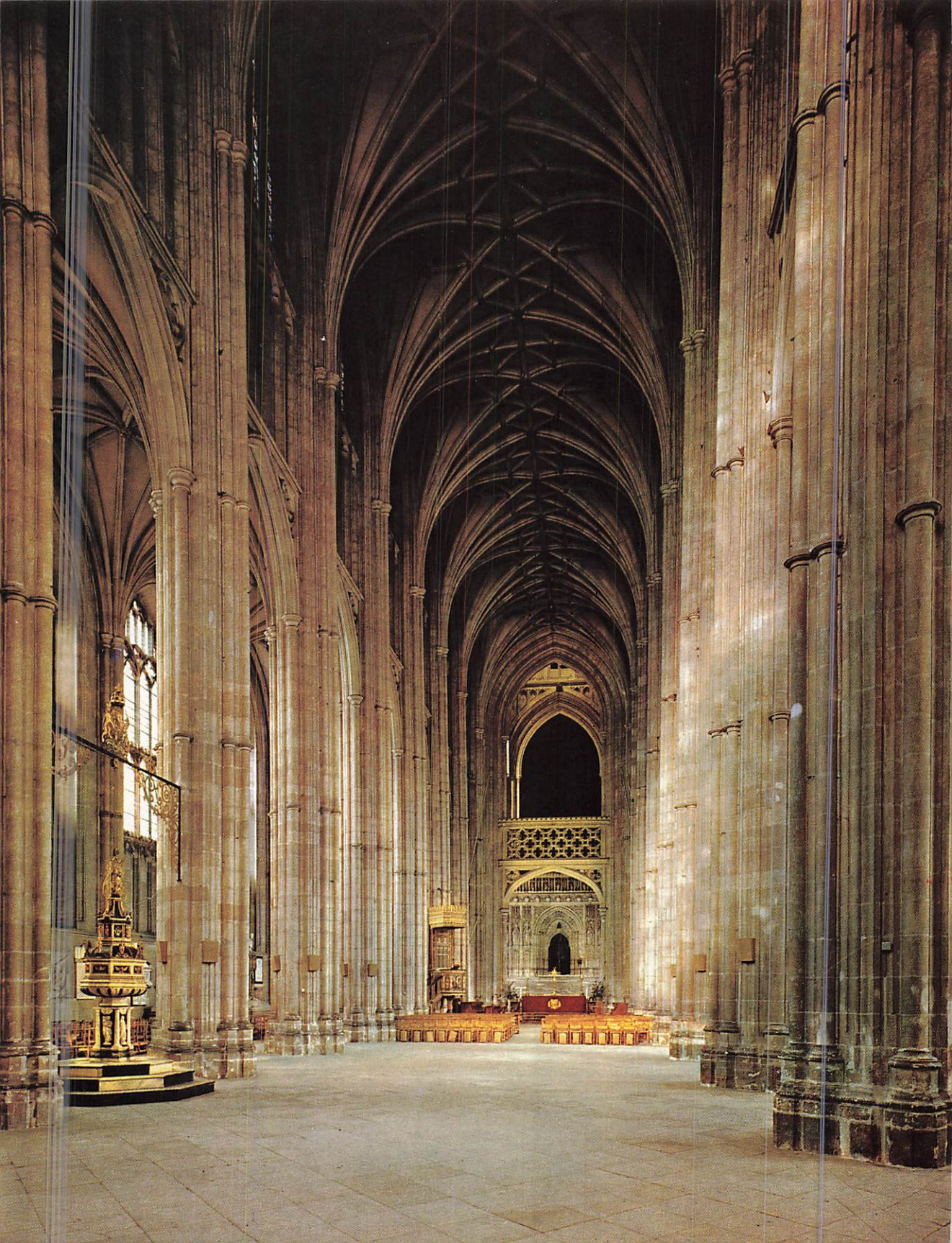
#### DECORATED GOTHIC (c. 1250-1380)

ABOVE: *Exeter Cathedral: the nave (1353-69), a late example of the period. Five of its seven bays, the triforium blind arcading, the clerestory and the vault are seen. Note the minstrels' gallery, jutting out from the north triforium. Note also how each shaft of the compound piers continues upwards into the moulded orders of the arches, also the Decorated tracery of the windows. The line of the vaulting shafts is carried upwards in transverse, diagonal, and tierceron moulded ribs 'guiding the eye upward to the horizontal ridge rib and along it to furthest east and furthest west'.*

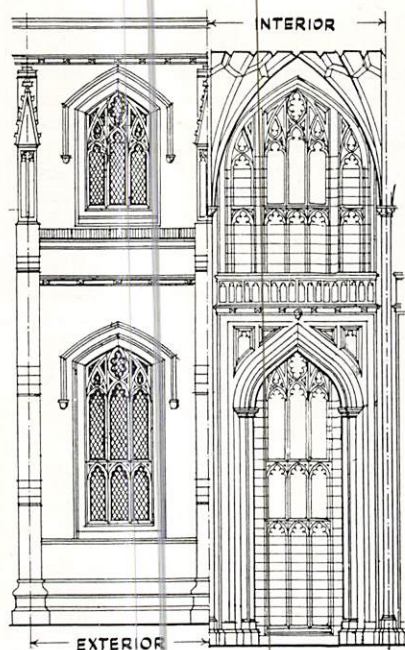
RIGHT: *An elevation of a bay of Exeter choir illustrating the Decorated tracery-headed windows, battlemented parapets, gabled buttresses, and, in the interior, the trefoil arches of the blind triforium arcading.*











# PERPENDICULAR GOTHIC (c. 1350-1550)

FACING PAGE: The superb nave of Canterbury. It is of eight bays of pier arcade with three-light tracery windows, clerestory windows, of which the mullions reach down to the base of the walled triforium. It was built in the latter part of the 14th century, replacing a Norman nave, the four main piers of which, under the tower, were encased by the later builders with Gothic moulded shafting. Note the engaged banded vaulting shafts soaring upwards from floor level to the spring of the vault; the girder arch connecting the western piers of the crossing; and the carved stone pulpitum of the 14th/15th century. The vault has unusual tierceron and lierne ribs, with the usual transverse, diagonals and ridge.

RIGHT: Christ Church, Oxford: The choir. Norman arcades and 15th-century clerestory with vault of fans and pendants.

ABOVE: An elevation of one bay of the Perpendicular nave of Winchester Cathedral. Note in the interior the engaged shafts with four-centred arch of the pier arcade and three-light tracery-headed clerestory windows surrounded by panelled stonework. Vaulting shafts are carried upwards from the base of the pier to the rib. The exterior shows 'stopped' dripstones to each window, Perpendicular gabled buttresses, and plain parapet.



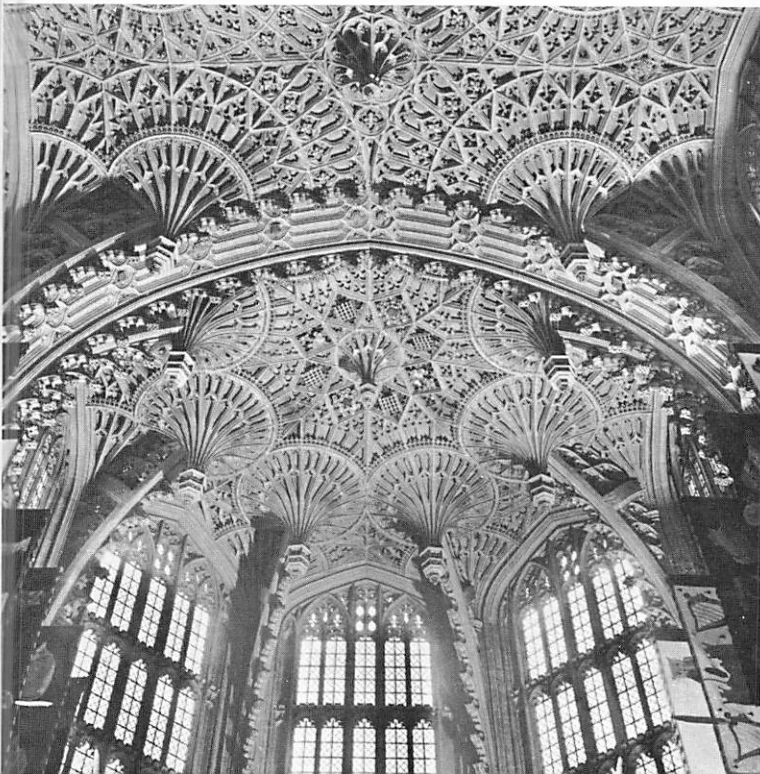




baric carved ornament such as 'zig-zag' moulding and animal forms, and very primitive 'stained' glass in a few of the round-headed windows of the cathedrals. Where vaulting was used (e.g. on some of the cathedrals whose timber roofs had been destroyed by fire), it was often very thick and heavy. In form it resembled a barrel, and is commonly called 'barrel' or 'tunnel' vaulting. It was carried by massive stone arched ribs between the supporting pillars and walls. An exception is Durham, which was covered in rib vaulting before 1133. Notable examples of Norman architecture in our English cathedrals include:

Bristol	Chapter-house
Canterbury	Choir (1096-1126; rebuilt 1174-85)
Carlisle	Two bays of nave
Chichester	Nave
Durham	Nave, choir and transepts, including high vault of nave (1093-1133)
Ely	Nave and transepts
Gloucester	Nave and choir (afterwards covered with late-Gothic masonry)
Hereford	Choir; nave arcading
Lincoln	West front
Norwich	Nave, transepts and choir with chapels
Oxford	Nave and choir (1158-80)
Peterborough	Most of church with its wooden roof (1117-93)
Rochester	Crypt (part), nave, west doorway
St Albans	Choir, transepts and most of nave
Southwell	Nave, transepts, tower
Winchester	Transepts, tower and crypt (nave re-cased in late-Gothic times)
Worcester	Crypt, transepts, circular chapter-house

The next phase or 'period' in English architecture is sometimes called 'Early English' by writers, but it is now more commonly known as 'Early Pointed' or the 'Lancet Style', and it forms the first of the 'Gothic' periods of our architecture. This word 'Gothic', though most people nowadays—learned as well as unlearned—accept it and use it thoughtlessly because it has become so familiar, is really an unscholarly name, or a nickname, which was first applied in the 17th century to the beautiful medieval architecture of our cathedrals, churches and older colleges, by critics and





writers who had been nurtured in the classical culture of Greece and Rome. These men considered that such architecture was the work of the barbarians who (a thousand years before) had wantonly pillaged and destroyed the glorious city of Rome.

'Early English' is another inappropriate name, because our 'Norman' architecture, in spite of its name, is in many ways distinctive to this country rather than to France, and was earlier than 'Early English'. Nevertheless, this 'Early English' style is even more English—indeed nothing quite like it exists elsewhere in Europe. However, the term 'Early Pointed' is far more descriptive and clear, because in this period, which lasted from c. 1190 to c. 1300, round arches gave way to pointed, in nave-arcades, windows and doorways. Important examples of

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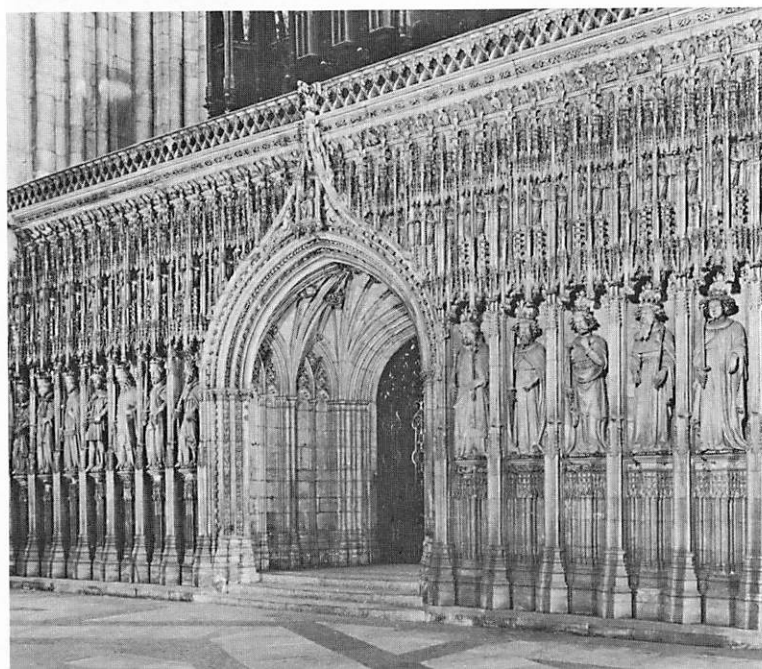
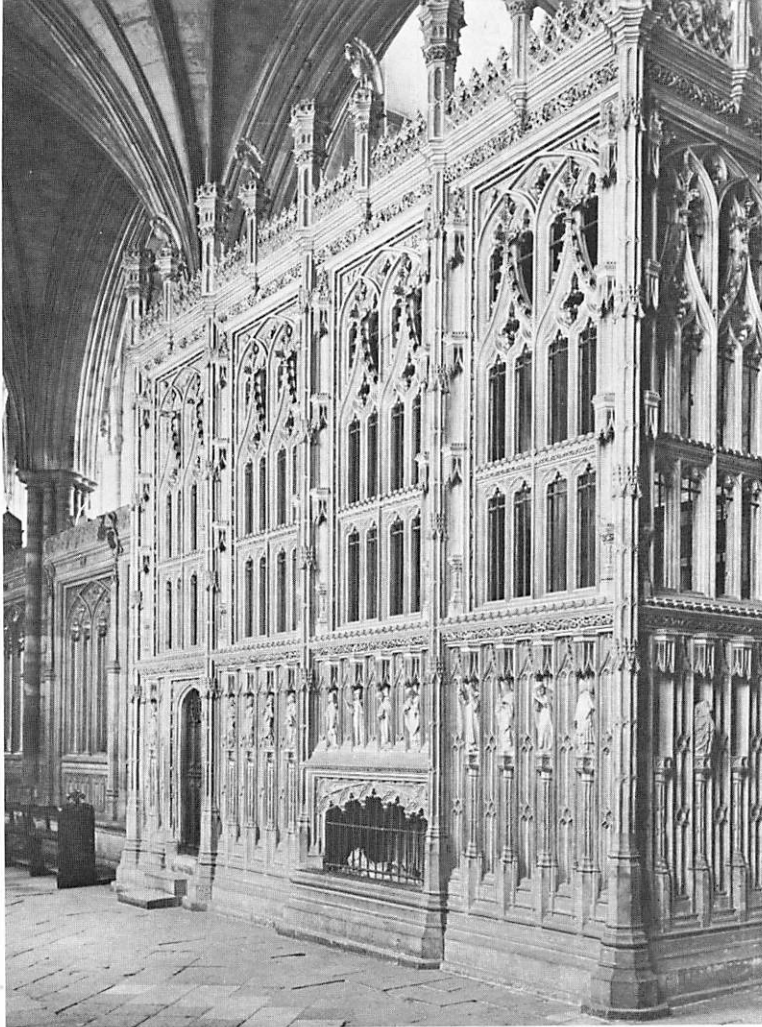
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ABOVE LEFT: *The south choir aisle of St George's Chapel, Windsor, showing a typical Perpendicular window, the fan vault with the vaulting shaft rising from the base of the pier.*

LEFT: *The elaborate lace-like beauty of the fan vault of Henry VI's Chapel in Westminster Abbey, acclaimed as the magnum opus of the Perpendicular style. This is purely a panel vault, with no structural ribs, and is built up of carved slabs of stone no more than five inches thick. Each pendant is an elongated stone of the arch, and upon it is worked an inverted cone-shaped structure.*

ABOVE RIGHT: *Bishop Fox's chantry in Winchester Cathedral. Bishop Fox (c. 1448–1528) became bishop of Winchester in 1501. He continued the restoration carried on by his predecessors including the wooden vaulting of the presbytery with its carved and coloured bosses, also the stone screen separating choir and aisles. The chantry (c. 1512) contains an altar and a tiny room where in his later years of blindness he spent much time.*

RIGHT: *Screens of wood or stone were a feature of medieval architecture, developed from the early Christian basilicas. A wide screen called a 'pulpitum' gave accommodation for an altar, or for a pair of ambos (pulpits), sometimes for an organ. Access was by a stairway in the wall. In monastic churches such screens separated the private portion from the public nave. Rood screens carried a rood or crucifix. The York screen illustrated here is an instance of a wide pulpitum.*







## RENAISSANCE

**ABOVE LEFT:** *St Paul's Cathedral*, Wren's masterpiece (1675-1710), which towers above the city of London, is the only Anglican cathedral in England with a dome. This photograph shows the massive 'drum' surmounted by the dome, lantern and cross (estimated total weight 68,000 tons), also the south portico and square-headed windows of the clerestory. The floor, about 12 feet above street level, allows for windows to the crypt, and for the magnificent range of steps to the colonnaded western entrance, and the semicircular steps to the porticos of the transept entrance.

**LEFT:** The interior of *St Paul's*, showing the round Italianate arches enriched with panelling, mosaic, fluted pilasters and massive piers. Portland stone was used throughout for the main fabric. Wren engaged Grinling Gibbons, who carved the exquisite panels (pear-wood on oak) on the choir stalls and elsewhere, and Jean Tijou, whose superb artistry is seen in the sanctuary gates and other wrought ironwork.

**ABOVE:** Sir Christopher Wren, by Godfrey Kneller.

A plan of the cathedral would show the nave (four bays with aisles), eight square piers at the octagonal crossing below the dome, choir of two bays with ambulatory, and the eastern apse. The whispering gallery, 100 feet above the crossing, is one of the acoustic features of 'London Cathedral'. A few statistics: length 510 feet, length of transepts 280 feet, height of vault 89 feet, height of dome and cross 365 feet. 'Great Paul', the heaviest bell in England, peals out from the south-west tower. Wren's Renaissance church replaces the Gothic cathedral of Old St Paul's, destroyed in the Great Fire, 1666.





Early Pointed architecture in English cathedrals include the following: Salisbury (most notable of all); York, transepts; Lincoln, nave, choir and chapter-house; Rochester, choir and transepts; Wells, nave and west front; most of Lichfield; Ely, choir, transepts and 'Galilee' porch; Worcester, choir; Bristol, 'Elder Lady Chapel'; Durham, 'Chapel of the Nine Altars'; Southwark, choir and retrochoir; and Westminster Abbey.

The second stage in English Gothic architecture used to be called the 'Decorated' style or period—another rather inappropriate name; although the general character of the design was certainly more free and more ornate than the somewhat austere 'Early English' style. Nowadays, some scholars divide this period or style into 'Geometrical' or 'Early Decorated', and 'Flowing Decorated' or 'Late Decorated', while others prefer 'Mid-Gothic'. Whatever we call it, it is easily recognised because the windows are divided by moulded stone mullions (vertical stone bars) into narrow glazed 'lights' (openings), usually from one to two feet wide; and these mullions, on reaching the level (the 'springing line') at which the arch enclosing the upper part of the window begins to curve upwards to a point, are twisted into graceful circles and other patterns to form tracery. Such tracery is seen at its best in this 'Decorated' or 'mid-Gothic' period. Examples of Decorated architecture are found in the cathedrals of Lincoln, the 'Angel Choir' (1255–80); Ely, part of the choir and Lady Chapel; York, nave, west front, and chapter-house; Lichfield, nave; St Albans, choir; and the chapter-houses of Salisbury, Southwell and Wells. 'Decorated' ornament consists mainly of carved naturalistic forms such as ivy, etc., in contrast with the conventional stiff foliage of the previous period.

The third and last of these three Gothic phases of our English architecture is the 'Perpendicular' period, sometimes called 'Rectilinear' to distinguish it from the curvilinear style of its precursor, which lasted from c. 1360 to c. 1550. The two alternative names describe the architecture of the period more accurately than some of the terms previously mentioned describe the earlier phases. English architects and craftsmen had become very skilful and daring, and stained glass was now becoming more fashionable. The intricate shapes created by

elaborate patterns of tracery in the upper part of the windows were obviously unsuited as frames for the pictures of saints, etc., that the people demanded; so all these complicated patterns began to give place to more regular and rectilinear shapes, thus resembling a gridiron. Then the masons started imitating this patterning in shallow panels carved on the solid masonry of the walls and parapets, for purely ornamental purposes. Vaulting now became still more complicated, resulting in the elaborate,

marvellous, but structurally illogical 'fan vaults' that one sees at their best at King's College Chapel, Cambridge; in Henry VII's Chapel at Westminster Abbey; in the cloisters of Gloucester Cathedral (1370–1412); in the ambulatory of Peterborough Cathedral and in the choir at Oxford Cathedral.

In Scotland, a somewhat similar evolution took place during the Gothic period; but, instead of the Perpendicular phase, a more florid development of the Decorated style replaced

*Continued on page 18*







## NEW CATHEDRALS

*Coventry (preceding page), Liverpool (above) and Guildford (right) are three Church of England cathedrals built in the 20th century. The photograph of the nave at Liverpool was taken from almost beneath the great central tower, and only half the length of the cathedral is visible. The impressive span of the tower arch is clearly seen. The material used is the local red sandstone. Guildford and Coventry cathedrals are in striking contrast with Liverpool. Guildford has a brick exterior, and is faced inside with an almost white limestone, which makes it the lightest in character of the three. The familiar details of arcades, roof vaulting ribs, east window, triforium, etc., while appearing at Liverpool, are much modified in Guildford and almost absent in Coventry. The vaulted roof supported on massive piers in Liverpool and Guildford becomes in Coventry a webbed canopy supported on slender reinforced concrete legs, and structurally independent of the roof above it. There is ample opportunity in these new cathedrals for the study of the kindred arts of sculpture, lettering, stained and engraved glass, metalwork, woodwork and embroidery.*

it under French influence, which was very strong at the time. The result was such beautiful and fanciful forms as we see in the 'flamboyant' (i.e. flame-like) tracery of St Giles' Cathedral at Edinburgh (1385-1416), Melrose Abbey (1450-1505), and, above all, at Roslin Chapel (1457), near Edinburgh. The remarkable openwork stone lantern or buttressed spires (or 'steeples') at St Giles', Edinburgh, and at the old cathedral of Aberdeen are also of this period.

The later phases of Perpendicular Gothic architecture in England are sometimes called 'Tudor', for obvious reasons; but that term is generally applied to domestic buildings rather than to cathedrals and parish churches. Indeed, very little church-building or cathedral-building took place during the reign of Henry VIII (1509-47) or in the three following reigns up to the beginning of the Stuart period in 1603. The Reformation of the Church had started and the Renaissance movement reached England from Italy and France about the same time. During the period c. 1550-1660, there was a good deal of hostility towards cathedrals, other churches and their clergy, directed mainly against extreme 'Popish' practices such as the veneration of relics and the effigies of saints, commonly called 'images'. A violent campaign of iconoclasm swept over many parts of England, especially in East Anglia; and vast numbers of such 'images', whether carved in stone or wood, or painted on plaster or glass, were destroyed in the cathedrals.

Nor was a great deal of cathedral-building done in England or Scotland during the 17th century, but there was one glorious exception. The huge Gothic cathedral of St Paul in London—the largest in England—lost its tall spire when struck by lightning in 1561, and had become very ruinous when the famous architect Inigo Jones undertook its restoration between 1634 and 1643, also adding a new west front. But his successor, Sir Christopher Wren, had already prepared a scheme for rebuilding most of the cathedral when, during the Great Fire of London in 1666, the whole structure was practically destroyed. He then rebuilt it (as we see it today) between 1675 and 1710. Without attempting to describe his masterpiece, it may be noted that his new cathedral differs in almost every respect from any English cathedral that had preceded it, and that it is one of the greatest buildings



in the world. It is un-English in style, yet unlike the Renaissance buildings in Italy and France that had inspired him. His dome is perhaps the finest ever designed by any architect in England.

During the 18th century, cathedral-building in England almost ceased, a rare exception being the parish church of St Philip, Birmingham, 1710–25, designed by Thomas Archer and raised to cathedral status as recently as 1905. The century was, indeed, a lamentable period for our treasures of Gothic architecture, which were little understood or valued even by architects themselves; while such restoration as was attempted was usually ill-advised, unskilful and unsympathetic. James Wyatt (1746–1813), though President of the Royal Academy, carried out restorations of several cathedrals—Durham, Lichfield, Hereford, Salisbury, as well as Westminster Abbey—so drastically that he was nicknamed ‘the Destroyer’. His work was violently attacked in print by another architect, Pugin, who certainly knew much more about Gothic architecture than Wyatt did; and a still fiercer quarrel took place later, about the proper methods of restoring our cathedrals, between Sir Gilbert Scott, R.A., who actually ‘restored’ 39 cathedrals, and William Morris.

This famous squabble led to the foundation in 1877 of the Society for the Protection of Ancient Buildings, commonly called ‘The Anti-Scrape’, and it may safely be said that, partly as a result of that body’s sensible and devoted work, during the years that have followed since it began, our old cathedrals have been more carefully tended and treated than ever before in their long history.

In 1895 the foundation stone of the new Roman Catholic cathedral at Westminster was laid. This exotic building in the Byzantine style was designed by John F. Bentley, his inspiration springing from St Mark’s at Venice, San Vitale at Ravenna and St Sophia at Constantinople. The exterior is of red brick and stone; the nave is said to be the greatest in England, and those parts of the interior which have been completed with mosaic and coloured marble are exceedingly beautiful.

Fifteen years earlier work had begun on a new Anglican cathedral at Truro. The architect was J. L. Pearson, and his building in the Gothic tradition which incorporated the old parish

church of St Mary was completed in 1910 by his son.

The three Church of England cathedrals of this century are of great interest. Their architecture has little in common except for the basic needs of all cathedrals. The architect of Liverpool was Sir Giles Gilbert Scott, O.M., who died in 1960, grandson of a famous Victorian architect. He won a competition with a design for the cathedral while still under 21. Liverpool Cathedral grew with him. It is almost certainly the last of the great Gothic cathedrals in the old tradition of construction, and is still (the foundation stone was laid in 1904) in course of building. Its great size gives it a massive dignity which makes a visit to it a memorable experience.

Guildford Cathedral (architect Sir Edward Maufe, R.A.) is quite different. With it we are moving into the modern age although it is still tra-

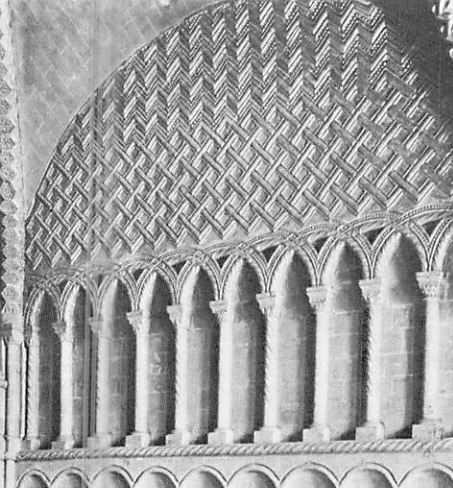
ditional in its general lay-out. The exterior is of brick and it stands up on Stag Hill, a wonderful site. The interior is stone lined and is full of light. While very different from Liverpool, it has an attraction all of its own. In a sense it stands midway between Liverpool and Coventry. It has not the daring of Coventry, yet, in the use of engraved glass and in the absence of a great east window, it has links with it.

Coventry (architect Sir Basil Spence, O.M.) is unique in this country. Will it blaze the trail for future cathedrals or not? It is yet too early to say. Undoubtedly the visitor to these new cathedrals and to the ancient ones will find much to interest him, to stimulate his imagination, and (if he will) to give him a hobby which will transform his journeys into voyages of fascinating discovery not only in this country but all over Europe.



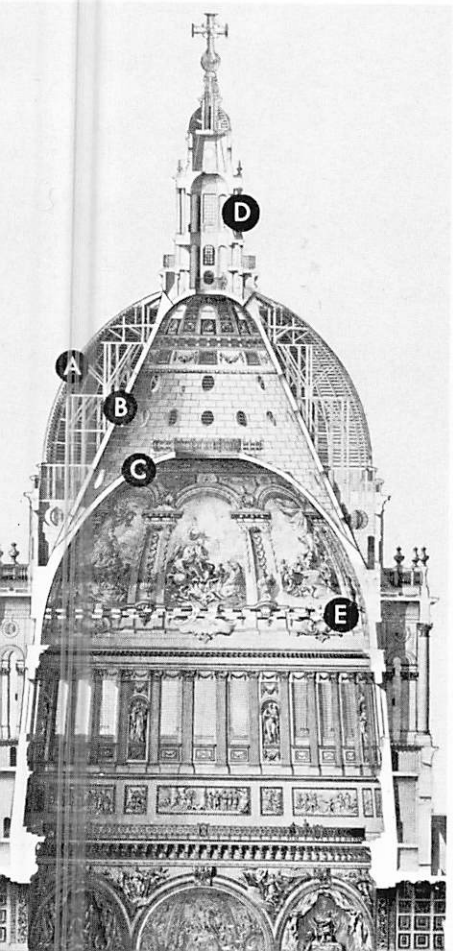


# GLOSSARY OF ARCHITECTURAL TERMS



ABOVE: A wall of Bristol chapter house, a gem of Norman work which illustrates double interlacing arcading and profusion of ornamentation—chevron, interlacing (reminiscent of basketry), cable, pearls, 'roses' in hexagonal moulding.

BELOW: A sectional drawing of the great dome of St Paul's Cathedral which consists of three main elements as described opposite.



**ABACUS** A flat slab or block of stone or wood, forming the top of a capital (q.v.) and supporting an entablature or other load.

**ABBEY** A monastery of monks or nuns, governed by an abbot or abbess; or the buildings occupied by such a monastery, in many cases now used as a cathedral.

**ABUTMENT** The part of a stone or brick wall which sustains an arch.

**AISLE** A passageway or open space on either side of a church, or longitudinally along its axis from west to east.

**ALMERY, AMBRY, or AUMBRY** A box, cupboard or recess for alms; or a cupboard in the chancel for the storage of sacred vessels used at the altar.

**ALMONRY** A room or place where alms were distributed.

**ALTAR** The holy table from which the sacrament is served; a fixed structure of stone, or a movable structure of wood, at the east end of the chancel; or in a side-chapel or Lady Chapel; usually raised by one or more steps above the general floor level.

**ALTAR-RAIL** A railing of wood or metal across the sanctuary, originally to prevent animals straying into this part of the church.

**AMBO** One of twin pulpits from which the Gospel and the Epistle are read.

**AMBULATORY** Originally a place for walking in. In a cathedral, processional aisle around the east end, behind the high altar.

**ANNULET** Literally a small ring. In architecture, a narrow stone or metal ring or fillet around the shaft of a column.

**APSE** A semi-circular or polygonal projection, in the case of a cathedral usually from the east end.

**ARCADE** A row of arches, e.g. between the nave and aisles, or between the choir and aisles, of a cathedral, supporting the main wall which is pierced by windows in a clerestory (q.v.).

**ARCADING** Rows of small arches used mainly for effect, either on the lower part of an internal aisle wall, or as a decorative feature on external walls, below the eaves or parapet (q.v.).

**ARCH** A self-supporting arrangement of bricks or stone blocks (voussoirs) carrying the weight of a wall over an opening. The arch is usually curved (though it may be flat or almost flat, being then called 'cambered'); but this type seldom occurs in cathedrals. The width of the arch between its supports is the 'span', its height from base or 'springing line' to top ('crown') is called the 'rise'. In English cathedrals, arches are either semi-circular or pointed. The former type was used in the Romanesque or Norman period, and in the Renaissance period. Pointed arches were rarely used in our cathedrals until those at Durham, early in the 12th century; and it is generally agreed that they were introduced from the Middle East as a result of the Crusades. The pointed arch may be regarded as the trademark of Gothic architecture. At first it was sharply pointed, hence the term 'lancet' or 'acute arch'. Then its shape varied; and before Gothic architecture ended in the 16th century, we find the equilateral arch, the ogee arch, the four-centred arch and some other minor types also.

**ARCHITRAVE** A term occurring in Classical and Renaissance architecture, and meaning either a frame around a door or window; or in any of the Roman Orders of Architecture the lowest member of the entablature resting upon the capital of the supporting columns.

**ARCHIVOLT** A moulding carried round an arch.

**ARCUATED** A term describing a building in which arches are used to support the structure, as opposed to a 'trabeated' building, where columns and beams are used. All our Gothic cathedrals are arcuated.

**ASHLAR** A term describing masonry which is 'dressed' (i.e. shaped and smoothed into regular blocks), as opposed to 'rubble' masonry (q.v.).

**ASTRAGAL** A small convex moulding or 'bead'.

**BALDAQUIN** A term originally applied to rich brocade made in Baghdad; then to a canopy of such material hung over an altar or tomb; finally to an elaborate canopied structure over an altar. The most famous example is in St Peter's at Rome (1633); and the fine specimen at St Paul's Cathedral in London was inspired by it. This London example was erected after the Second World War, to replace the elaborate modern marble reredos destroyed in an air-raid.

**BALL-FLOWER** A curious ornament, much used in English Gothic mouldings during the early 14th century, and consisting of a spherical flower with three lobes, opened to show an enclosed sphere. Ball-flowers were set at regular intervals in a hollow moulding.

**BALUSTER** One of a row of vertical members supporting the coping of a parapet, or the handrail of a staircase; and made of stone, wood or iron.

**BALUSTRADE** A row of balusters.

**BAND** A horizontal flat or moulded band of stone round a building; or a small moulding round the shaft of a column.

**BAPTISTRY** A bay, chapel or corner of a building reserved for baptisms, and containing a font (q.v.).

**BARREL-VAULT** A continuous semi-circular arch or tunnel, used in English Romanesque architecture. (See VAULT.)

**BATTLEMENT** A form of parapet used in cathedrals for ornamental purposes; but derived in fact from medieval fortification.

**BEAD** Any small convex moulding.

**BEAK-HEAD** A grotesque and crude ornament much used in English Romanesque architecture, generally in rows along the line of mouldings. It suggests either a head with a beak; or, if the tongue is hanging out, a cat's head.

**BELFRY** A bell tower or campanile (q.v.).

**BENCH-END** The end of a bench or seat in a church of the Late Gothic period; often carved with foliage, heraldry, and grotesque human or animal forms.

**BILLET MOULDING** An ornamental moulding used in Romanesque architecture, consisting of small cylindrical blocks set in a hollow.

**BLIND STOREY** An alternative name for the TRIFORIUM (q.v.).

**BLIND TRACERY** An imitation of window-tracery, carved on solid stone in parapets, etc., for ornamental purposes.

**BOND** In brick or stone walling, an arrangement of bricks or stones made in such a manner as to create the maximum stability.

**BOSS** In medieval architecture, a keystone (q.v.) usually carved ornamentally and sometimes also painted and gilded, at the intersection of ribs in a vaulted roof. Notable examples may be seen in the cloisters at Canterbury, Norwich and Worcester. Ornamentally carved wooden bosses are also found occasionally at the rectangular intersections of beams in wooden ceilings.

**BRACE** Especially in timber structures, a diagonal member or strut, stiffening the vertical and horizontal members.

**BRASSES** Memorial tablets, usually inset flush with the floor of a cathedral or church, and engraved with heraldry, inscriptions, effigies, etc. They date mainly from the 13th to the 17th centuries.

**BRATTISHING** Ornamental cresting used in Late Gothic architecture on the top of a screen in a church.

**BUTTRESS** A vertical mass of masonry or brickwork projecting from a wall to resist the outward thrust of a roof-truss or vault or merely to stiffen the wall. The projection and size of buttresses increased progressively through the Middle Ages, and buttressing became a chief feature of Gothic architecture. (See also FLYING BUTTRESS.)

**CABLE MOULDING** A convex stone moulding, carved to represent a cable or rope. Used in Romanesque architecture.

**CAMPANILE** A term usually applied only to a bell tower which is detached from a church. These are very rare in England. One



was demolished at Salisbury Cathedral in 1789; but one example still survives, at Chichester Cathedral, erected c. 1410-40.

**CANOPY** A roof-like, projecting cover sheltering a niche, usually ornamental and made of stone; but often imitated quite unjustifiably on ornamental wooden screens inside churches.

**CANTORIS** In an Anglican cathedral, the north side of the choir, where the cantor or precentor sits facing the dean (cf. **DECANI**).

**CAPITAL** The moulded or carved block on the top of a column. It is often richly ornamented; but it actually serves a utilitarian purpose, viz. to distribute the superincumbent weight of a wall, etc., on to the shaft of the column. In the three Roman Orders (q.v.), the Doric Order had a fairly plain capital, the Ionic Order had a volute (a spiral form) at each corner, and the Corinthian Order was surrounded by conventional leaves of the acanthus plant. In Romanesque architecture, this last type served as a favourite model, though the ornamental foliage was less delicate, sometimes even coarse. Gothic capitals in England were sometimes moulded, and sometimes carved with conventional foliage of great beauty; but in the last Gothic period the foliage became flatter and less graceful. In the Renaissance period, capitals were imitated strictly from the Roman types mentioned above.

**CARPENTRY** The working and framing of the structural timbers of a building, as opposed to the lighter internal finishings, e.g. doors, windows, staircases, etc., which are reckoned as joinery (q.v.). Carpentry includes roofs and floors.

**CAVETTO** A concave moulding.

**CEILING** In a cathedral, the term applies only to a separate inner covering below the roof, or to any painted or ornamental lining to the underside of the roof.

**CHAMFER** In woodwork, an angle cut off diagonally.

**CHANTRY** or **CHANTRY CHAPEL** See p. 9.

**CHAPEL** Originally a place for relics; then a small place for private prayer, with an altar where masses could be sung.

**CHAPTER-HOUSE** See p. 4.

**CHEVET** See p. 9.

**CHEVRON** or **ZIGZAG** A Romanesque ornamental moulding, the actual ornament being shaped like a V.

**CINCTURE** A ring or fillet round the shaft of a column.

**CINQUEFOIL** An arch or window opening divided by projecting cusps (q.v.) into five lobes, or leaves.

**CLERESTORY** or **CLEARSTORY** In an aisled building such as a church or cathedral, the part of the main wall, below the eaves and above the top of the aisled roof, which is pierced with windows giving light to the main interior. (See **TRIFORIUM**.)

**CLOISTER** See p. 4.

**CLOSE** Originally an enclosure; in modern speech, the precinct (q.v.) of a cathedral, enclosed by buildings belonging to the cathedral (e.g. the deanery, canons' houses, etc.). In such English cathedrals as were formerly monastic, other buildings (dormitory, refectory, etc.) are also found in the close. The peaceful and dignified cathedral close is seen at its best in England.

**CLUSTERED COLUMN** A column which appears to be a single member but actually consists of several separate stone shafts.

**COLONNADE** A row of columns supporting an entablature.

**COLONNETTE** A miniature column.

**COLUMN** A cylindrical (but generally slightly tapered) pillar serving to support some part of a building. It normally consists of three parts: base, shaft, and capital. (See also **ORDERS OF ARCHITECTURE**.)

**CONFESSIONAL** In Roman Catholic cathedrals, a small enclosure or box in which a priest hears confessions. There are also confessionals in some Anglican churches, though not of the sentry-box type.

**COPING** A protective covering of brick or stone on the top of a wall, usually projecting slightly in order to throw rainwater away from the face of the wall below.

**CORBEL** A stone block, built into and

projecting from a wall to carry the end of a roof-truss or a beam; often carved with grotesque human or animal figures.

**CORBEL-TABLE** A row of stone corbels or brackets carrying a parapet (q.v.); often carved into grotesque heads.

**CORNICE** A continuous horizontal member, usually moulded, crowning an external wall or around the top of a room internally; or, in classical architecture, the topmost member of an entablature.

**COURSE** A continuous layer of stones or bricks in walling.

**CROCKET** In Gothic architecture, a carved ornament resembling a curled leaf, much used on the angles of spires and on pinnacles, etc.

**CROSSING** In any cathedral or large cruciform church, the square space formed by the intersection of nave and transepts. Many important English cathedrals (e.g. Canterbury, Durham, Gloucester, Lincoln, St Albans, Salisbury, Worcester, York) have lofty central towers over the crossing, and Ely has a famous 'lantern' tower.

**CRYPT** An underground chamber or cellar, usually vaulted; found in most English cathedrals.

**CUSHION CAPITAL** In Romanesque architecture, a plain cubic capital (q.v.) with its lower corners cut off and rounded, so that it resembles a cushion.

**CUSP** In Gothic architecture, a small projection like a tooth, carved on the inner side of an arch and thus dividing it into foils (q.v.). Cusps are purely ornamental.

**DECANI** In a cathedral, the south side of the choir, on which side the dean sits (cf. **CANTORIS**).

**DIAPER** A form of Gothic surface decoration, carved in shallow relief on stone, or painted on plaster or wood. It consists of rows of flowers, each framed in a square. The name is a variant of 'd'Ypres', because it is supposed to have been invented from patterns of cloth woven at Ypres in Flanders.

**DOG-TOOTH MOULDING** An ornamental moulding in stone, much used in English cathedrals (e.g. Salisbury) during the 13th century. It consists of a row of pyramidal projections, each carved into four leaves.

**DOVE** A convex roof, usually hemispherical, over a square, circular, or octagonal space. The outstanding example in England is the dome of St Paul's Cathedral, London. This consists of three elements: an external dome of timber, covered with lead (A in the illustration); an invisible brick cone, which carries the enormous weight of the stone 'lantern' (q.v.) above (B); and, finally, an inner dome of approximately hemispherical section, and seen from the floor of the cathedral (C).

**DRESSINGS** In masonry or brick walling, those blocks of stone which are worked to a smooth face with a chisel, and are used especially at the quoins (q.v.); or as a frame to doorways and windows.

**DRIPSTONE** In Gothic masonry, a stone moulding surrounding and projecting slightly over the heads of doors and windows, to throw rainwater clear of the wall face. Often called a 'Label Moulding'.

**EARLY ENGLISH STYLE** See p. 14.

**EASTER SEPULCHRE** A recess (usually on the north side of the chancel) in which is a group of effigies representing the burial and resurrection of Christ.

**ENCAUSTIC TILES** Tiles so called because the pattern is burnt into them; much used in the flooring of medieval cathedrals.

**ENGAGED COLUMN** A column which is partially built into a wall.

**EPISTLE SIDE** The south side of a chancel; so called because the Epistle is read from that side (cf. **GOSPEL SIDE**).

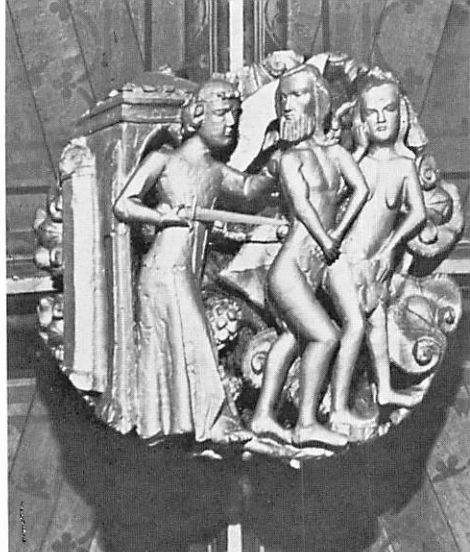
**EXTRADOS** The curved upper or outer surface of an arch and of its component voussoirs, or blocks (cf. **INTRADOS**).

**FACADE** The face, or principal front, of a building.

**FAN-VAULTING** The latest and most elaborate phase of English Gothic vaulting, very complicated and somewhat illogical.

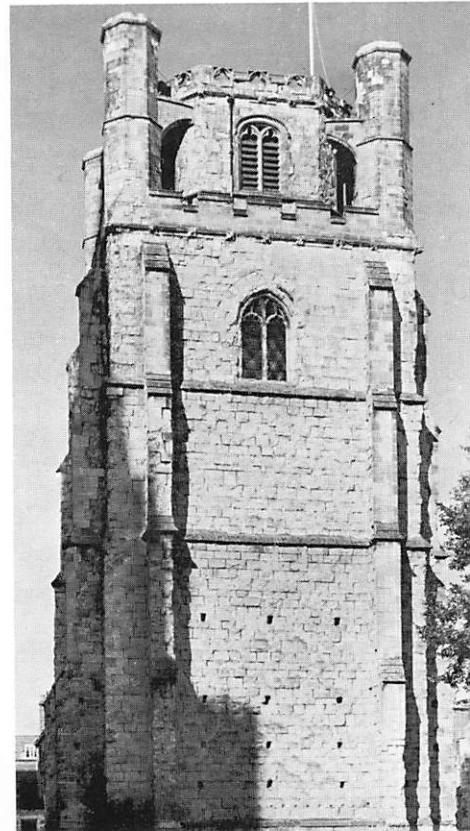
**FILLET MOULDING** A narrow flat strip between other mouldings.

**FINIAL** A vertical ornamental feature or small pinnacle of stone, at the base or apex



ABOVE: The boss of a vaulted roof is a necessity. As the meeting place of the ribs it presented a complex piece of geometry, but it was turned by the medieval craftsmen into an opportunity for ingenious enrichment. This example from Ripon portrays the expulsion of Adam and Eve from Paradise.

BELOW: The Chichester campanile. Built in the first half of the 15th century, this is the only separate cathedral bell tower in England. There is a ring of eight bells, the two oldest of which date from the 16th century.

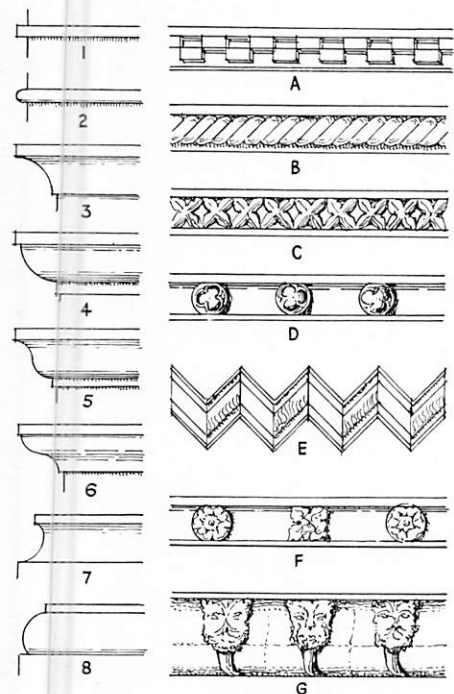






ABOVE: The flying buttresses at Bath Abbey. This strengthening feature is to be seen in its perfection in France.

BELOW: Mouldings. Roman and Renaissance: 1 Fillet; 2 Astragal or Bead; 3 Cavetto; 4 Ovolo; 5 Cyma Recta; 6 Cyma Reversa; 7 Scotia; 8 Torus. Enriched Medieval: A Billet; B Cable; C Dog-tooth; D Ball-flower; E Chevron; F Tudor Flower; G Beakhead.



of a gable.

**FLECHE** A sharply pointed ornamental little spire of wood, covered with lead. Rare in England, but there is a very fine example at the cathedral of Notre Dame, Paris.

**FLORIATED** Decorated with floral ornament; a term used of tracery, etc.

**FLYING BUTTRESS** In Gothic architecture, a stone buttress consisting of an arch serving as a prop, its upper end resting against the high main wall of a church, its lower end against a pier, in order to take any transmitted thrust. To increase the stability of the buttress, a pinnacle is usually built on the top of the pier.

**FOIL** One of the small arcs between the cusps (q.v.) in tracery.

**FONT** A receptacle for water used in Christian baptism.

**FRATER** A common-room or refectory in a medieval monastery.

**FRESCO** Painting that is done on a plastered wall while the plaster is still fresh, i.e. before it has dried.

**GABLE** The triangular piece of wall at the end of a cathedral, e.g. at Durham and Ely.

**GALILEE** A porch or chapel at the west end of a cathedral, e.g. at Durham and Ely. The use of the term is of uncertain origin. The late Sir Banister Fletcher, in his *History of Architecture*, says, 'Some derive it from the Latin *galeria*, a long porticus or porch. Others suppose that the verse in St Mark, xvi, 7—'He goeth before you into Galilee; there shall ye see Him'—suggests a meeting-place, and hence the name.'

**GARGOYLE** A projecting spout delivering rainwater from a gutter on the top of a wall so that it falls clear of the wall face. This feature was sometimes carved to represent grotesque and animal forms.

**GEOMETRICAL** or **DECORATED STYLE** See p. 17.

**GOSPEL SIDE** The north side of the chancel of a church, from which the Gospel was read (cf. *EPISTLE SIDE*).

**GRILLE** In cathedral architecture, an iron grating protecting and enclosing a chapel or a tomb.

**GROIN** The sharp edge at the intersection of two vaults.

**GROUT** Thin, semi-liquid mortar, much used in modern times in the restoration of cathedral masonry to fill interstices in walls and piers. The method is known as 'grouting'.

**ICONOCLAST** A breaker of images (see pp. 7, 18).

**IMPOST** The course or layer of masonry from which an arch springs. (See *ARCH*.)

**INTRADOS** The underside, or soffit, of an arch. (See *ARCH*.)

**JOINERY** The lighter woodwork of a building, including doors, windows, staircases, panelling, etc. (cf. *CARPENTRY*).

**KEYSTONE** The wedge-shaped central voussoir (q.v.) of an arch, on which the efficiency of the arch depends. (See *ARCH*.)

**LABEL MOUNTING** See *DRIPSTONE*.

**LADY CHAPEL** See p. 9.

**LANCET** An Early Gothic window with a sharply pointed head. (See p. 14.)

**LANTERN** A turret or other small structure erected on the top of a tower, a roof, or a dome, to give light to the interior of a building, e.g. at St Paul's Cathedral, London, and at Ely Cathedral.

**MISERICORD** In the choir stalls of a medieval church, a bracket (often grotesquely or humorously carved) beneath a hinged seat which, when the seat was tipped up, gave some support to a person standing during a lengthy service.

**MONASTERY** A religious community of monks or nuns, or the buildings occupied by the community. In England, the monasteries, which numbered about 650 in all when they were dissolved by Henry VIII in 1536-39, were mainly those of the Benedictines, Cistercians, Augustinians, and Carthusians. Many of their churches became cathedrals after the Dissolution, but the buildings of many more were demolished.

**MOULDINGS** Ornamental lines of grooving, channels and projections, worked below or above a plain surface, and often enriched with carved foliage and other ornamental forms. Mouldings varied in each successive historical period of architecture according to strict laws

of prevailing fashion, so that experts can tell the approximate date of any classical or Gothic building from its mouldings alone. (See sketches, left.)

**MULLION** A stone or wood vertical bar dividing a window-opening into 'lights'.

**NAVE** The main body of a church, with or without flanking aisles; but excluding the chancel and transepts (if any).

**NICHE** An ornamental recess in a wall; usually with an arched top, and often containing a statue.

**NORMAN ARCHITECTURE** See *ROMANESQUE*.

**OGEE ARCH** A pointed arch of double curvature—convex above concave.

**ORDERS OF ARCHITECTURE** (from Latin *ordo*—a rank, row or series) The term 'Orders' seems to have been first used in England c. 1563, and has since become very important. The Roman architect and scholar Vitruvius, in the 1st century B.C., wrote a manual of architecture in Latin which had a great vogue (in its English translation) in England during the 17th and 18th centuries. In his book he classified the design of ancient Greek and Roman buildings according to the way in which columns were used. He christened the chief types 'Doric', 'Ionic', and 'Corinthian'; and upon this basis all architectural fashions in England rested from the 17th century onwards, except when revived 'Gothic' was in vogue; but St Paul's in London is the only English cathedral where their use is important. (See *CAPITAL*.)

**ORGAN** Organs in English churches were in occasional use from very early times; but many were forcibly removed as 'superstitious' by an order of Queen Elizabeth I in 1563. They came into general use late in the 17th century, and many magnificent organ-cases are to be seen in Wren's London churches of that period; but in 1708 only 12 organs had been installed in 50 of those churches. When himself favoured the placing of the organ in a western gallery.

**OVULO MOULDINGS** A convex or egg-shaped moulding, sometimes carved with a representation of eggs alternating with ornamental figures known as 'darts' or 'tongues': hence 'egg and dart moulding', etc.

**PARAPET** Originally a breastwork in fortification. In architecture, it is a low wall built around a roof or platform to prevent people from falling over the edge.

**PARCLOSE SCREEN** A screen in a church, dividing a chantry chapel (q.v.) or a tomb from the body of the church.

**PEDIMENT** In Classical and Renaissance architecture, the gable of a building with a low-pitched roof. The term may be applied to St Paul's Cathedral, London, but not to Gothic buildings with steep roofs.

**PERPENDICULAR STYLE** See pp. 13, 17.

**PEW** Originally a platform or desk in a church; then an enclosed seat for an important parishioner; later, from the 17th century onwards, any enclosed seat. Pews from that period became normal furniture, and their occupants paid a regular rent for them; but they suggested exclusiveness, so in recent years an effort has been made to supersede them by fixed open seating or benches. (See also *BENCH-END*.)

**PIER** In architecture, a solid vertical mass of stone, brick or concrete, supporting a vertical load.

**PILASTER** A flat and often ornamental column, partially built into the wall of a structure, and projecting from it very slightly. (See also *ENGAGED COLUMN*.)

**PILLAR** A vertical structural member or oblong, square, circular or polygonal section; capable of carrying a load. If of wood, it is generally called a 'post'.

**PISCINA** In a church, a basin—usually under an ornamental niche in the chancel—in which the priest washed his hands after rinsing the sacred vessels.

**PLATE TRACERY** A primitive form of Gothic tracery, in which geometrical openings, such as circles, were pierced through a solid slab or 'plate' of stone. It was superseded later by 'bar tracery' in which slender moulded members were used. (See *TRACERY*.)

**POINTED STYLE** See p. 14.

**POPPY-HEAD** A conventional type of



final (q.v.) or ornament, carved on bench-ends (q.v.) in late Gothic churches.

**PORCH** A sheltered or covered entrance to a building. (In the U.S.A. only, a veranda or loggia.)

**PRECINCT** The close (q.v.) of a cathedral, with its surrounding buildings, including the cathedral itself.

**PREDELLA** Either a kneeling-stool or the platform on which the stool stands.

**PRIORY** A monastic community of monks or nuns governed by a prior or a prioress, or the buildings occupied by the community. Some of these have now become cathedrals.

**PULPIT** In cathedrals and other churches, a raised structure from which a sermon is preached. Pulpits were seldom used in England in medieval times; the earliest known is dated 1330; but they became general after 1603.

**PULPITUM** In English cathedrals, a massive stone screen or gallery separating the choir from the nave.

**QUATREFOIL** Either (1) a conventionalised leaf or flower having four lobes or petals; or (2) an opening in a traceried window or panel, having four foils (leaves) separated by cusps (q.v.). (See also **TRACERY**.)

**QUOIN** Either the external angle of a stone or brick building, or the stones or bricks forming the angle. In buildings with flint walls, the quoins are of brick or of dressed stone.

**RECTILINEAR STYLE** See **PERPENDICULAR**.

**REFECTORY** A dining-room in a monastery. Several examples exist in formerly monastic cathedrals, e.g. Chester. (See **FRATER**.)

**RENAISSANCE ARCHITECTURE** See pp. 16, 18.

**REEREDOS** A screen or wall behind the altar.

**RESPOND** In Gothic churches, a half-pillar or corbel (q.v.) at the end of an arcade from which the end arch springs.

**RESTORATION** The replacement of damaged or weather-worn portions and features of an old building; or, if the items in question are already replacements, the insertion of fresh substitutes intended to resemble the original features. Repairs are, of course, inevitable in old cathedrals and other churches, but there has always been a conflict of opinion (bitter in Victorian times) between those who replace everything as they imagined it to have been originally, and others who held that it was more honest to let the repairs and replacements be recognised as modern work.

**RETICULATED TRACERY** A type of stone tracery used occasionally in mid-Gothic times, which had rows of ornamental openings resembling the meshes of a net.

**RETROCHOIR** In some cathedrals and large churches, the portion of the chancel behind the high altar, at the extreme east end.

**RIDGE** The line of intersection of the two slopes of a pitched (i.e. sloping) roof.

**RISE** (of an arch) The vertical height of an arch from its 'spring' (base) to its apex or 'crown'. (See **ARCH**.)

**ROMANESQUE ARCHITECTURE** See pp. 6, 11, 14.

**ROOD-LOFT** A gallery across the entrance to the chancel of a church; carried on a rood-beam and supporting the rood (crucifix); sometimes flanked by statues of saints. In 1561, all roods and rood-lofts in England were ordered to be demolished as 'superstitious', down to the level of the rood-beam.

**ROOD-SCREEN** An ornamental screen; usually with panels below and openwork above and crowned by a richly crested cornice. The screen fills the space between the underside of the rood-beam and the floor of the church.

**ROOF-TRUSS** A framed structure of timber (or of steel or reinforced concrete in modern buildings), placed at intervals of 8 to 10 feet across the width of a church or other long building, to carry the purlins (longitudinal beams supporting the roof-rafters on which the slates or tiles are laid). Though strictly utilitarian in purpose, Gothic timber roof-trusses in churches were often carved and decorated with great richness; but in our cathedrals they are mostly hidden by vaulted ceilings of stone, or by painted or

panelled wooden ceilings.

**ROSE WINDOW** A circular window containing tracery and often resembling a rose.

**ROTUNDA** A term occasionally applied to a dome (e.g. of St Paul's Cathedral, London) or to a circular domed building.

**ROUNDEL** A circular disc or panel, e.g. in a stained glass window.

**RUBBLE (MASONRY)** Walling made of rough stones which have not been 'dressed' by a mason's hammer or chisel.

**SACRISTY** A room adjoining a cathedral or other large church, for storing sacred vessels and the clergy's vestments.

**SANCTUARY** Either the holiest part of a church, i.e. in the chancel, or any portion of a church in which a medieval fugitive from justice could claim sanctuary and escape arrest, under an ancient church law.

**SANCTUARY KNOCKER** Ornamental knocker on the door of a church (notably Durham Cathedral) which a fugitive could touch when claiming sanctuary.

**SAXON ARCHITECTURE** (now generally known as 'Pre-Conquest Romanesque Architecture' in England) English architecture of the period between the end of the Roman occupation of England and the Norman Conquest in 1066. Hardly any vestiges of it survive in our cathedrals.

**SEDILIA** A range of stone seats, generally three in number, on the south side of a chancel, for the use of the clergy. Most of them are richly decorated with canopied niches and are of late-Gothic date. (Sing. *sedile*.)

**SEPULCHRE** A tomb. (See **EASTER SEPULCHRE**.)

**SEXPARTITE VAULT** A vault in which there are six compartments.

**SHAFT** The main part of a column, from its base to its capital.

**SLYPE** In a monastery or a formerly monastic cathedral, a covered passage leading from the cloisters between the transept and chapter-house.

**SOFFIT** The underside of an arch, a lintel, a beam or a cornice, etc.

**SOUNDING-BOARD** or **TESTER** A wooden, panelled feature, fixed above and behind a pulpit, to reflect the preacher's voice towards the congregation. Many fine examples exist in Wren's London churches.

**SPALLING** The splitting or splintering of masonry in piers, etc., due to pressure. Common in our old cathedrals.

**SPAN** Of an arch or beam, the distance between its points of support.

**SPANDREL** The approximately triangular space between the outer curve of an arch and an enclosing frame of mouldings, etc. Often richly carved with foliage.

**SPIRE** A tall pyramidal structure or roof upon the top of a tower. There is an early Romanesque example at Southwell Cathedral. The finest English Gothic examples are at Salisbury, Lichfield and Chichester.

**SPIRELET** A miniature spire. (See also **FLECHE**.)

**SPRINGER** The lowest voussoir of an arch. (See **ARCH**.)

**STAINED GLASS** A term comprising glass of which the glass itself is 'stained' or coloured by the addition of a metallic oxide during its burning, but usually painted afterwards with delicate foliage and other detail. There is very early stained glass of the 12th century at Canterbury Cathedral; fine grisaille (i.e. grey-green) glass in the so-called 'Five Sisters' at York Minster; and several magnificent late-Gothic windows in the same cathedral.

**STEEPLE** A term loosely applied to any tall spire tower, e.g. many of Wren's City churches in London. More precisely, it describes a tower crowned with an open-work spire or lantern, e.g. at Newcastle Cathedral.

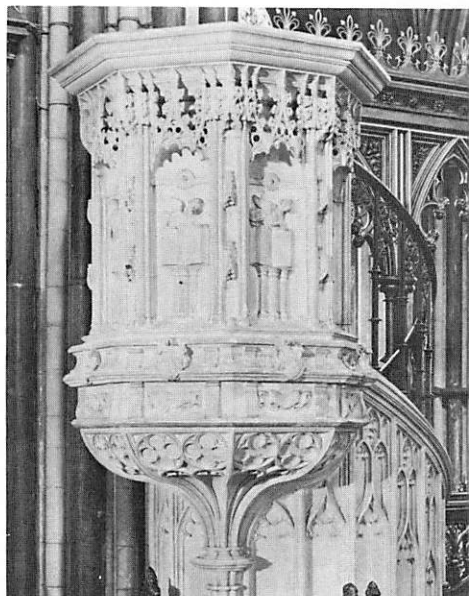
**STELLAR VAULTING** Vaulting of a type in which the converging ribs form a star-like pattern.

**STOUP** A small stone basin for holy water; usually placed in a niche or on a pedestal near the door of a church.

**STRING COURSE** A horizontal band or moulding of stone or brick, on a wall face.

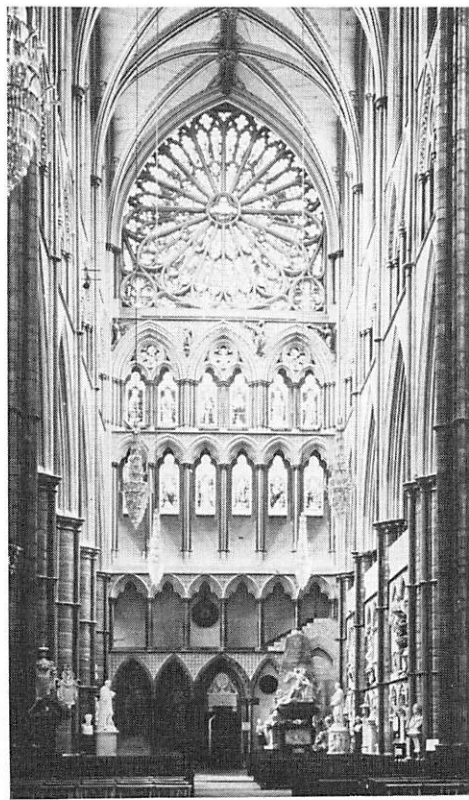
**TABERNACLE WORK** Ornamental canopies (q.v.) and crockets (q.v.) over niches in late-Gothic architecture.

**TESSELATED PAVEMENT** A floor

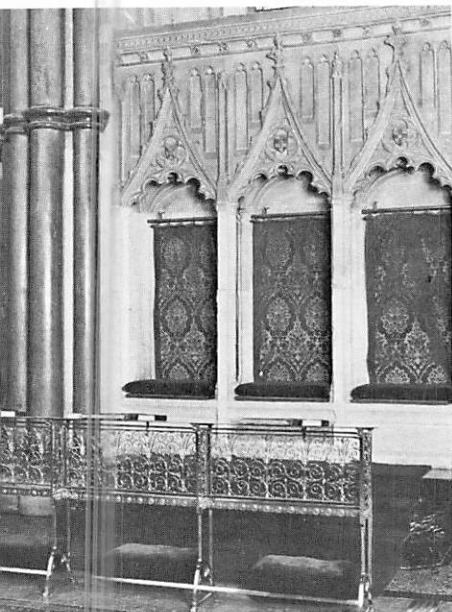


ABOVE: This stone pulpit is in the choir at Worcester Cathedral.

BELOW: The great rose window (c. 1260), largest of its type in a cathedral, in Westminster Abbey (south transept).

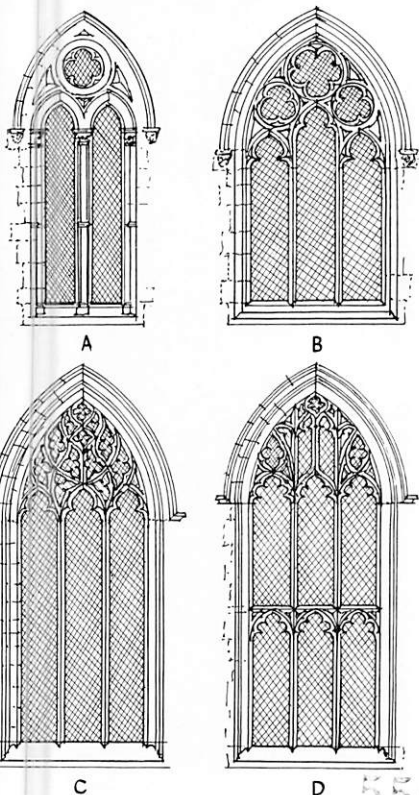






ABOVE: Sedilia in the presbytery of Rochester Cathedral. The niches are canopied with an unusual form of arch.

BELOW: A Plate Tracery; B Geometrical Tracery; C Flowing Decorated or Curvilinear Tracery; D Perpendicular Tracery with a transome.



covered with tesserae (small blocks of mosaic, consisting of marble and other material). The finest modern examples in England are in the Roman Catholic Cathedral of Westminster.

**TIE BEAM** In a timber roof-truss, a horizontal beam which ties together the feet of the sloping rafters to prevent them from spreading under the weight of the roof.

**TIERCERON** In vaulting, a minor rib springing from a main rib and leading to the ridge-rib.

**TRABEATED** See **ARCUTED**.

**TRACERY** In Gothic architecture, slender moulded stone bars, intersecting to form patterns in the heads (i.e. the upper parts) of windows. It was used from the 13th century to at least the 17th. In its earliest form, it evolved from the grouping of two or more lancets (q.v.) under an enclosing arch, with circular openings in the small intervening spaces. The vertical piers of stone between the lancets were reduced in size until they became slender columns with capitals. Then these columns were replaced by moulded mullions (q.v.) which were continued above the springing-line of the arch into elaborate geometrical and flowing patterns. Late in the Gothic period, this flowing tracery assumed a rectilinear or 'grid-iron' pattern, partly because it was more suitable for framing the popular pictures of saints, etc., in the stained glass windows. (See also **RETICULATED TRACERY**, **TRANSEME**.)

**TRANSEPT** In any cruciform cathedral or large church, the transverse arm running north and south. The term is generally used in its plural form, as 'transepts', otherwise one speaks of 'the North Transept' and 'the South Transept'. Among others, the cathedrals of Canterbury, Lincoln, Salisbury, and Worcester each have an additional pair of eastern transepts; hence these are called 'double transepts'.

**TRANSITIONAL ARCHITECTURE** or **TRANSITIONAL PERIOD** There is some sort of gradual transition between each successive stage of English Gothic architecture; but this term is generally applied to the transition between 'Norman' and 'Early English', i.e. from c. 1145 to c. 1190, when pointed arches were coming into fashion.

**TRANSEME** In any large window with mullions (q.v.), a horizontal bar across the whole window, of the same section as the mullions, to stiffen them transversely.

**TREFOIL** Literally 'three-leaved'. Either a carved three-leaved ornament, or a three-lobed or three-leaved panel or opening in tracery.

**TRIFORIUM** or '**BLIND STOREY**' In a medieval cathedral or large church, the portion of the internal wall above the arcade and below the clerestory (q.v.) behind which is the dark or 'blind' space over the aisle. The name 'blind storey' is used as a contrast to the term 'clerestory', because the latter is pierced with windows.

**TUDOR STYLE** The last phase of English Gothic architecture, when the Perpendicular style (q.v.) was giving way to the Renaissance style (q.v.). Very little cathedral building took place during this period, which may be dated c. 1500 to c. 1600. A four-centred depressed arch is typical of the period.

**TUNNEL VAULT** Another name for a barrel-vault (q.v.).

**TYMPANUM** In English church architecture, the semi-circular space over a round-headed doorway, above the lintel and beneath the enclosing arch; often decorated with sculpture; or space within a pediment.

**UNDERCROFT** In a medieval monastery or a formerly monastic cathedral, a vaulted cellar or range of rooms used for storage, etc., often with a dormitory above.

**VAULT, VAULTING** The covering of a building, or part of a building, with a roof formed of concrete ('monolithic'); or of stones in mortar, or bricks in mortar, and in any case forming a continuous semicircular or pointed arch. The earliest in English cathedrals are massive Romanesque vaults of the 12th century, e.g. at Durham; then followed Gothic ribbed vaults—sexpartite and quadripartite—and, finally, in the late 14th century, the elaborate type known as **FAN-VAULTING** (q.v.).



ABOVE: The triforium is the central feature of a nave arcade consisting of pier arcade, triforium, clerestory. This photograph of the Angel Choir in Lincoln Cathedral shows it in its renowned perfection in transitional Early English, completed 1280. Each bay consists of two containing arches, each with two lower trefoiled arches with a four-foiled circle in the spandrel.

BACK COVER: Blackburn Cathedral; the central space.

**VESTRY** Strictly speaking, a room where priests robed themselves and where vestments were kept.

**VOUSSOIR** See **ARCH**.

**WHEEL WINDOW** A circular window, in which the radiating bars of the tracery resemble the spokes of a wheel.

**WICKET** A small door in a much larger door of a cathedral or church, enabling a person to enter without opening the main door.

**ZIGZAG** See **CHEVRON**.

#### ACKNOWLEDGMENTS

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